

## ABSTRACT

The present invention has an object to provide a technology for monitoring the quality of a WDM signal light, capable of quickly and accurately judging an occurrence of quality deterioration of signal light and a deterioration factor thereof. To this end, according to a quality monitoring apparatus of WDM signal light of the present invention, a part of the WDM signal light being propagated through an optical transmission path is branched as a monitor light, a signal light of one wavelength contained in the monitor light is selected as a channel to be measured. Then, the frequency of occurrences of bit error for the channel to be measured is repeatedly measured for a plurality of times, and whether or not the signal quality is deteriorated is judged, together with the deterioration factor based on the measurement results, and a control signal light for adjusting the signal light power according to the judgment result is transmitted to the optical transmission path, to achieve the improvement of a characteristic of the WDM signal light.